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REMARKS

The present amendment is prepared in accordance with the requirements of 37 CFR 1.121.

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the personal interview between U.S. Patent Examiner Dang D. Le and the undersigned Counsel Steven J. Miller, Esq., conducted on September 15, 2006, clarifying what the Applicant considers its invention, the amendments above and the remarks below.

Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 and 28 were previously canceled by the Applicant, claims 14 and 29 were canceled, pursuant to an Examiner's Amendment (see Final Office Action mailed August 31, 2006) made after a telephone communication with the undersigned counsel. Independent claims 1 and 16, have been presently amended, to place them in a better form, and new dependent claims 31 and 32 have been added, pursuant to Examiner's comments from said Interview between the Examiner and the undersigned counsel. No new matter has been added.

CLAIM REJECTIONS – 35 USC 103

1. In the Final Office Action mailed on August 31, 2006, the Examiner has rejected Claims 1, and 16 as being unpatentable over MASAKI (JP 02-074146) in view of LEHDE (US 2,807,734), because the subject invention would have been obvious, when taking

MASAKI and LEHDE in combination, to one skilled in the art. The applicant respectfully traverses the Examiner's position on this issue. As discussed with the Examiner in the Interview between the Examiner and the undersigned counsel on September 15, 2006, a careful review of the entire English translation of MASAKI, clearly indicates that MASAKI claims a "magnetic" body, which may be made of "iron" [part # 3] (see Applicant's certified English translation of MASAKI previously filed last June 2006, page 4 line 10), notwithstanding any other suggested magnetic characteristics and definitions for 'iron' contained in other patents cited by the Examiner, and which are taken in a different context (i.e., each patentee/applicant is his own lexicographer for the potential variant magnetic characteristics that he is claiming) [see Examiner's comments in Final Office Action mailed on August 31, 2006, paragraph # 2, referencing certain definitions or characteristics for 'iron' in HUANG (6,906,517) and VAN BIJSTERVELD (6,824,329) patents, and conversely, see and compare to Applicant's generally accepted definitions in Exhibits B, C and D attached hereto with the undersigned counsel's document authenticity 37 CFR 1.132 Declaration. 'Iron' has many isotopes and allotropes. Certain allotropes of common iron isotopes are "magnetic" (i.e. have appreciable residual magnetism) (see the aforementioned Exhibit C, for alpha, beta, gamma and delta allotropic forms of iron and their "magnetic" characteristics; the alpha allotrope is "magnetic" but the beta, gamma and delta allotropes are not, so a comment in prior patents that iron is "non-magnetic" is necessarily overly broad, and must be taken in the specific context of that particular patent and its specific art area)], on MASAKI's

rotor that does not have permanent magnets. The undersigned counsel clarified with the Examiner in the September 15, 2006 Interview, that the subject invention specifically has not, and does not, claim anywhere in the subject application disclosure, any reliance on the residual magnetism or "magnetic" properties on materials on the rotor that does not have permanent magnets; but, as stated above, MASAKI **does**, in fact, claim a "magnetic" body (see references to part # 3 in MASAKI) on its rotor that does not have permanent magnets. The present invention specifically requires, through specific negative limitations, that permanent magnetic elements exist on only one of the two rotors, and that no ferromagnetic materials exist on the rotor without the permanent magnets, but that said non-permanent magnet rotor does have magnetically permeable materials (which may be "ferrous" material which is not ferromagnetic; see aforementioned Exhibits B, C and D attached) and electro-conductive elements. Therefore, since MASAKI does not have each and every limitation or element to the subject claimed invention, MASAKI does not anticipate the subject invention, and therefore the subject invention is novel over MASAKI. "Anticipation requires that each and every element of the claimed invention be disclosed in a *single* prior art reference" In re Spada, 911 F.2d 705 (Fed. Cir. 1990). Further, given this clarification of the subject invention, MASAKI, in view of LEHDE (2,807,734) cannot, and does not, suggest, or teach towards, the Applicant's subject invention [see paragraph # 5 of Final Office Action mailed on August 31, 2006]; in fact, MASAKI specifically teaches away from the applicant's invention, by suggesting the use of a "magnetic" (residual magnetism) body on the rotor that does not have permanent

magnets. The Applicant's invention, to the contrary and by negative limitation, specifically claims that there are no ferromagnetic materials used on the rotor without the permanent magnets. Addressing LEHDE, although it provides a means for varying one rotors position relative to the other rotor, LEHDE does not disclose one rotor with permanent magnets and the other rotor with electro-conductive elements and magnetically permeable material that is not ferromagnetic which is claimed by the subject invention; to the contrary, LEHDE specifically suggests the opposite, by disclosing and claiming, that LEHDE's rotor that does not have permanent magnets, **does have**, in fact, "...magnet material...for present purposes may be understood [LEHDE's lexicography here] to mean any magnetic material having a relatively high hysteresis coefficient" [see LEHDE, Col. 1, lines 35-40; also compare with "ferromagnetic" definition in the subject Applicant's Exhibit B of undersigned counsel's 37 CFR 1.132 Declaration attached hereto...Ferromagnetic = "...relating to substances with... "...appreciable residual magnetism and hysteresis"]. Therefore, LEHDE **does** require "magnetic" elements on the rotor that does not have permanent magnets. Consequently, LEHDE not only does not suggest, but specifically teaches away, both individually, and in combination with MASAKI, from the subject invention; said subject applicant's invention specifically not requiring, by specific negative limitation, any ferromagnetic materials, and permanent magnets, on the rotor that does not have permanent magnets. Therefore, considering the current application as a whole when compared to MASAKI and LEHDE, the subject invention would not have been obvious to one skilled in the art at the time of the filing of

the subject application.

2. In paragraph # 6 of the Final Office Action mailed on August 31, 2006, the Examiner has rejected Claim 1 as being unpatentable over DENK (5,292,284) in view of LEHDE (2,807,734), because the subject invention would have been obvious, when taking DENK and LEHDE in combination, to one skilled in the art. The applicant respectfully traverses the Examiner's position on this issue. DENK (5,292,284) discloses permanent magnets on both of its rotors [see DENK, see col. 1, lines 21-22..."...permanent magnets on the two rotors..."]. DENK also discloses that its magnetically permeable materials cited by the Examiner (DENK part # 14) [see paragraph #6 in Final Office Action] mailed August 31, 2006], are, in fact, "ferromagnetic" [see DENK Col. 2, line 64]; the Applicant has in its instant invention, specifically claimed, by negative limitation, that its magnetically permeable materials, as well as its electro-conductive materials, are not ferromagnetic. In addition, the present invention specifically requires, through specific negative limitations, that permanent magnetic elements exist on only one of the two rotors, and that no ferromagnetic materials exist on the rotor without the permanent magnets, but that said rotor does have magnetically permeable materials (which may be made of a non-ferromagnetic "ferrous" material; see aforementioned Exhibits B, C and D attached hereto) and electro-conductive elements. Therefore, given the aforementioned clarification of the subject invention, DENK in view of LEHDE, cannot, and does not, suggest or teach towards the Applicant's subject invention. Therefore, considering the

current application as a whole when compared to DENK and LEHDE, the subject invention would not have been obvious to one skilled in the art at the time of the filing of the subject application.

3. In paragraph # 7 of the Final Office Action mailed on August 31, 2006, the Examiner has rejected Claim 16 as being unpatentable over LEHDE (2,807,734) in view of MURPHY (3,860,064), because the subject invention would have been obvious, when taking LEHDE and MURPHY in combination, to one skilled in the art. The applicant respectfully traverses the Examiner's position on this issue. MURPHY (3,860,064) discloses permanent magnets on both of its rotary members [see MURPHY, see Fig. 1 parts 18, 19 and see col. 2, lines 32-35 "...carries a magnet in the form of a ring **18**. A second magnet **19**, ... "the magnets **18** and **19**..."; also see Col. 1 lines 32-34, "Preferably the said coupling comprises a first magnet attached to the drive and a second magnet attached to the fan,..."]. In addition, MURPHY discloses that one of the members may be made of "ferromagnetic" material [see MURPHY, col. 1, lines 37-39]. The present invention specifically requires, through specific negative limitations, that permanent magnetic elements exist on only one of the two rotors, and that no ferromagnetic materials exist on the rotor without the permanent magnets, but that said rotor does have magnetically permeable materials (which may be made of a non-ferromagnetic "ferrous" material; see the aforementioned Exhibits B, C and D attached hereto) and electro-conductive elements. Therefore, given the aforementioned

clarification of the subject invention, LEHDE in view of MURPHY, cannot, and does not, suggest or teach towards the Applicant's subject invention. Therefore, considering the current application as a whole when compared to MURPHY and LEHDE, the subject invention would not have been obvious to one skilled in the art at the time of the filing of the subject application.

4. Like MASAKI, LEHDE, DENK and MURPHY, none of the other previously cited prior art suggests or teaches to the use of permanent magnets on only one of two rotors, and the non-permanent magnet rotor having electro-conductive elements and magnetically permeable elements that are not ferromagnetic. In fact, said cited prior art, whether alone or in combination, when compared to the Applicant's invention, specifically does not suggest, and specifically does teach away from, the Applicant's invention. As stated by the Court of Appeals for the Federal Circuit: "Further, in combining the elements selected from different references, the references must be considered as a whole, including any disclosures in them that teach away from the combination claimed by the inventor in his patent", W.L. Gore & Assocs. V. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1989).

IV. CONCLUSION

Attached hereto is a marked-up version of the changes made to the specification, currently amended claims and new claims. The attached page is captioned "**VERSION WITH MARKINGS TO CURRENTLY AMENDED CLAIMS TO SHOW CHANGES MADE**".

Serial No. 10/790,571

It is noted that the amendments are made only to more completely define the invention and place them in a better form based on Examiner's comments. No new matter has been added.

In view of the foregoing, it is respectfully submitted that the application has now been brought into a condition where allowance of the case is proper, and issuance of a Notice of Allowance is requested. Consideration of the amendments herein is hereby respectfully requested, as well as consideration of new claim numbers 31 and 32, based on the clarification of what the Applicant considers its invention discussed above and in the Interview with the Examiner on September 15, 2006, and the related arguments herein.

Should the Examiner find the application to be other than in condition for allowance, Applicant's Attorney respectfully requests that the Examiner call the undersigned to clarify any issue and/or the amendment.

Dated: October 5, 2006

Respectfully Submitted,

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I hereby certify that this correspondence, including the attachments listed on the accompanying Transmittal, is being transmitted via facsimile machine on the date indicated above and is addressed to the MAIL STOP RCE, Commissioner of Patents, PO Box 1450, Arlington, VA 22313-1450.

Steven J. Miller, Esq.

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VERSION WITH MARKINGS TO CURRENTLY AMENDED CLAIMS TO SHOW CHANGES MADE

BRIEF SUMMARY OF THE INVENTION

The present invention utilizes permanent magnets to transmit variable or fixed torque between two rotating elements. The aforesaid permanent magnets are located on only one of the two rotating elements (also referred to as "rotors" or "rotary members"), and the other rotating element in a particular embodiment does not contain permanent magnets, but does have so-called "electro-conductive" elements. Said electro-conductive elements comprise materials and alloys that are not ~~permanent magnets~~ ferromagnetic, but that allow electron flow through them. In addition, so-called "magnetically permeable" materials are also contained on the said non-permanent magnet rotors, said magnetically permeable materials comprising substances that allow magnetic flux penetration and are also not ferromagnetic. The torque between the aforesaid two rotating elements is adjusted by mechanically varying the amount of magnetic flux passing between the elements by varying the extent to which the elements are axially overlapped. In a preferred embodiment of the apparatus, two concentric cylinders, one containing one or more rows of permanent magnets, is moved axially in order to progressively axially overlap a second cylindrical element containing electro-conductive elements and magnetically permeable elements, but not containing permanent magnets. This progressive axial overlapping of the two cylinders allows variation in the amount of magnetic flux intersecting the two concentric cylinders. This causes the amount of induced electrical current in the cylinder containing the

electro-conductive elements to vary, which then causes the induced counter magnetic forces to vary. The magnetic forces and, thus, torque transmitted will vary based on the amount of axial overlap.

The proposed invention overcomes previous limitations by taking advantage of new technologies in magnet materials and provides a stable means of mechanically varying large amounts of transmitted torque without the need for large external current controls.

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CLAIMS

What is claimed is:

1. (Currently Amended) An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having permanent magnets mounted on it;

the secondary rotary member having electro-conductive elements and magnetically permeable materials neither of which are ferromagnetic, ~~but~~ and not having permanent magnets ~~or other permanent magnetic elements~~;

said secondary rotary member axially overlapped by said primary rotating member

wherein a means for varying said primary rotary member's axial position relative to said secondary rotating member is provided; and

said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electro-conductive material on said secondary rotary member thereby generating torque and rotation in said secondary rotary member in relation to the percentage of the total area that said secondary rotary member is axially overlapped by said primary rotary member.

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16. (Currently Amended) An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having electro-conductive elements and magnetically permeable materials neither of which are ferromagnetic, ~~but~~ and, not having permanent magnets ~~or other permanent magnetic elements~~;

the secondary rotary member having permanent magnets mounted on it;

said secondary rotary member axially overlapped by said primary rotating member

wherein a means for varying said primary rotary member's axial position relative to said secondary rotating member can be varied; and

said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electro-conductive material on said secondary rotary member thereby generating torque and rotation in said secondary rotary member in relation to the percentage of the total area that said secondary rotary member is axially overlapped by said primary rotary member.

31. (New) The apparatus as in Claim 1, wherein said magnetically permeable material that is not ferromagnetic, located on said secondary rotary member, is a machined, 304 grade, stainless steel.

32. (New) The apparatus as in Claim 16, wherein said magnetically permeable material that is not ferromagnetic, located on said primary rotary member, is a machined, 304 grade, stainless steel.